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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/146,851	09/03/98	MCQUEEN	352206/97-18

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EXAMINER
FENTY, J

ART UNIT
2815

PAPER NUMBER

DATE MAILED: 06/02/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/146,851

Applicant(s)

MCQUEEN, MARK

Examiner

Jesse A Fenty

Art Unit

2815

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 2, 11-18 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-10, 19 and 21-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1, 3-10, 19 and 21-28 in Paper No. 8 is acknowledged.
2. Claims 2, 11-18 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

Specification

3. The title of the invention is not descriptive and contains method language. A new title is required that is clearly indicative of the invention to which the claims are directed.
4. The disclosure is objected to because of the following informalities: The disclosure on pp. 3, lines 27-28; pp. 4, lines 4-5, pp. 5, line 24 and pp. 12, lines 9-10 refers to the invention as a "bipolar transistor"; however, there are no components of a traditional bipolar transistor discussed, i.e. collector, base, emitter. Rather, components of a MOS type device are discussed and identified, i.e. drain, gate, source.

Secondly, on pp. 13, line 1, the disclosure references, "...the plurality of structures, as shown in Fig. 1..." Figure 1 only shows one structure, not a plurality.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 5-10 and 23-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In re claims 5-10 and 23-28, the specification is silent in regards to the source/drain contact plugs, contact lands and upper contacts extending between at least two source/drain regions, contact plugs and contact lands.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 3-10 and 21-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In re claims 3-10 and 21, the preamble of the claims states a "bipolar transistor". However, the body of the claims describe a structure pertinent to a MOS-type transistor, i.e. having a source, drain and gate. Therefore, it is unclear what type of transistor the applicant is claiming.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 3, 4, 19, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyakawa (U.S. Patent No. 5,686,760).

In re claims 1, 3, 19 and 21, as best understood, Miyakawa (Fig. 2C) discloses a contact for a semiconductor device, comprising:

An intermediate structure comprising a substrate (1) having at least one thick field oxide area, and at least one active area including at least one implanted drain region (13), and at least one implanted source region (12), said intermediate structure further including at least one transistor gate member (14) spanned between said at least one drain region and said at least one source region on said at least one active area;

A first barrier (22) layer substantially covering said at least one field oxide area, said at least one active area and adjacent said at least one transistor gate member;

At least one drain contact plug (21 (right)) extending through a first barrier layer, wherein said at least one drain contact plug is in electrical communication with said at least one drain region on said semiconductor substrate;

At least one source contact plug (21 (left)) extending through a first barrier layer, wherein said at least one source contact plug is in electrical communication with said at least one source region on said semiconductor substrate;

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At least one drain contact land (51 (right)) disposed atop said at least one drain contact plug, wherein said at least one drain contact land has a larger cross-sectional area than said at least one drain contact plug;

At least one source contact land (51 (left)) disposed atop said at least one source contact plug, wherein said at least one source contact land has a larger cross-sectional area than said at least one source contact plug;

A second barrier layer (32) disposed over said first barrier layer;

At least one upper source contact (10 (left)) extending through said second barrier layer, wherein said at least one upper source contact is in electrical communication with said at least one source contact land; and

At least one upper drain contact (10 (right)) extending through said second barrier layer, wherein said at least one upper drain contact is in electrical communication with said at least one drain contact land.

The limitations of the preamble, "...for the dissipation of electrostatic discharges..." are recitations of the intended use of the claimed device. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

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In re claims 4 and 22, Miyakawa discloses the devices of claims 3 and 21 respectively, further comprising drain contact metallization (63 (right)) in electrical communication with said at least one upper drain contact and source contact metallization (63 (left)) in electrical communication with said at least one upper source contact.


Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Beatty (U.S. Patent No. 6,034,433) discloses an interconnect structure for protecting a transistor gate from charge damage; Tanigawa (U.S. Patent No. 5,828,097) discloses a semiconductor memory device of similar structure and Hirota et al. (U.S. Patent No. 5,406,104) discloses a MOSFET device with separate and common electrodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A Fenty whose telephone number is 703-308-8137. The examiner can normally be reached on M-F 9-5.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JAF
May 31, 2000


DAVID HARDY
PRIMARY EXAMINER